

REMARKS

The Official Action rejects Claims 1-3 and 5 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,717,182 to Uwe Behrens, et al. In addition, the Official Action rejects Claim 6 under 35 U.S.C. §103(a) as being unpatentable over the Behrens '182 patent. The Official Action also rejects Claims 1-6 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,786,051 to Niggemeier, et al. Independent Claim 1 has been amended in order to further patentably distinguish the sleeve of the claimed invention from the cited references. Additionally, new Claims 7-15, including new independent Claim 9, have been added to recite still additional patentable aspects of the sleeve of the claimed invention. In light of the foregoing amendments and the following remarks, Applicants respectfully request reconsideration of the present application and allowance of the claims.

The sleeve of independent Claim 1 includes a core having an inner surface and an outer surface, a first layer bonded to the inner surface of the core and a second layer bonded to the outer surface of the core. As further recited by independent Claim 1, the second layer is a material having a lower coefficient of friction than the first layer. By designing the sleeve such that the second layer has a lower coefficient of friction than the first layer, the sleeve may be more readily installed upon the end portions of a pair of adjacent conduits.

The Behrens '182 patent describes a plastic coupling sleeve that extends between and joins the end portions of a pair of adjacent pipes. The plastic coupling sleeve includes a number of different layers or elements, many of which are comprised of a glass fiber roving cloth embedded with a synthetic resin. The Official Action contends that portion 12 is, in effect, the core having inner and outer surfaces. The Official Action also contends that the end regions 11 constitute the first layer bonded to the inner surface of the core and that layer 13 serves as the second layer that is bonded to the other surface of the core. Further, the Official Action submits that layer 13 has a lower coefficient of friction than end portions 11 since layer 13 is described to be comprised of glass fiber rovings, while the end regions 11 are comprised of glass fiber rovings embedded in a synthetic resin.

Applicants disagree with the application of the Behrens '182 patent to the sleeve of independent Claim 1 on several bases. First, the end portions 11 that are asserted to be the first

layer are not bonded to the inner surface of the core. Instead, the end portions 11 are disposed at the opposite ends of portion 12 and are not bonded to the inner surface of portion 12, as would be required by independent Claim 1 if portion 12 were considered the core. Additionally, Applicants submit that one of ordinary skill in the art would recognize that the layer 13 and the end portions 11 are actually comprised of the same material, that is, resin impregnated glass fibers and that layer 13 is not merely formed of glass fibers in and of themselves as submitted by the Official Action. In this regard, column 6, lines 35-40 of the Behrens '182 patent recite that the layer 13 is wound from the same glass fiber rovings as those which also wind around the end regions 11. As described in conjunction with the end regions 11, the glass fiber rovings are embedded in a synthetic resin, and Applicants submit that one of ordinary skill in the art would recognize that the glass fiber rovings that comprise the layer 13 would similarly be embedded in a synthetic resin. As such, Applicants submit that one of ordinary skill in the art would recognize that the thin layer 13 and the end portions 11 would actually have the same, not different, coefficients of friction.

In order to further patentably distinguish the sleeve of the claimed invention from the Behrens '182 patent, however, independent Claim 1 has now been amended to recite that the second layer is longer than the core so as to extend beyond the core. In contrast, the thin layer 13 does not extend beyond portion 12, but is, instead, coextensive with portion 12. For this additional reason, the layer 13 therefore cannot properly be considered the second layer of the sleeve as now recited by amended independent Claim 1.

For each of the foregoing reasons, Applicants submit that the Behrens '182 patent does not teach or suggest the sleeve of amended independent Claim 1. Likewise, the Behrens '182 patent does not teach or suggest a sleeve of dependent Claims 2-6, which depend from and include the recitations of amended independent Claim 1. Accordingly, Applicants submit that the rejections of Claims 1-3, 5 and 6 as being either anticipated or rendered obvious by the Behrens '182 patent are therefore overcome.

With respect to the rejection of Claims 1-6 as being obvious over the Niggemeier '051 patent, Applicants initially submit that the Niggemeier '051 patent is not analogous prior art as would be required to support an obviousness rejection. In this regard, "[i]n order to rely on a

reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be regionally pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d, 1443, 1446 (Fed. Cir. 1992). As noted by MPEP § 2141.01(a), in *In re Oetiker*, "[a]pplicant claimed an improvement in the hose clamp which differed from the prior art in the presence of a preassembly 'hook' which maintained a preassembly condition of the clamp and disengaged automatically when the clamp was tightened. The Board relied upon a reference which disclosed a hook and eye fastener for use in garments, reasoning that all hooking problems are analogous. The court held that the reference was not within the field of applicant's endeavor, and was not reasonably pertinent to the particular problem with which the inventor was concerned because it had not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments."

In the present application, Applicants submit that the ink transfer roller of the Niggemeier '051 patent is even much further afield from the sleeve described by the claimed invention than the hooks that were at issue in *In re Oetiker*. In this regard, Applicants invented a sleeve for joining and sealing conduits and were concerned with a variety of issues, including the maintenance of a good seal as the shape of the conduit changed somewhat during use and following pressurization, and the ability to readily remove, reuse and reinstall the sleeve for repair, inspection or other purposes. As such, not only is the ink transfer roller described by the Niggemeier '051 patent not within the field of endeavor of the claimed invention, i.e., the field of coupling sleeves, but the Niggemeier '051 patent is also not reasonably pertinent to the problems addressed by the sleeve of the claimed invention. As such, Applicants submit that the Niggemeier '051 patent cannot properly be cited in support of an obviousness rejection of Claims 1-6.

Even if the Niggemeier '051 patent could be cited in support of an obviousness rejection, however, Applicants submit that the Niggemeier '051 patent does not teach or suggest the sleeve of independent Claim 1. In this regard, the first and second layers that are bonded to the inner and outer surfaces of the core, respectively, of the ink transfer roller are not described in such a way that the second layer bonded to the outer surface has a lower coefficient than the first layer

bonded to the inner surface, as recited by independent Claim 1. The Official Action notes that the Niggemeier '051 patent does not disclose that the second layer is formed of a material having a lower coefficient of friction than the first layer. However, the Official Action indicates that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the second layer from a material having a lower coefficient of friction because the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art." Applicants disagree since, for among other reasons, the intended use of the ink transfer roller of the Niggemeier '051 patent that would have guided its material selection was an entirely different (and nonanalogous) use for that intended for the sleeve of the claimed invention. In this regard, the ink transfer roller of the Niggemeier '051 patent was developed to provide a stretchable, interchangeable fiber-reinforced plastic laminated material cover having a metal-ceramic layer provided with small ink transfer cups on an outer surface thereof. As such, the coefficient of friction of any of the layers, let alone the first and second layers bonded to the inner and outer surfaces of the core, respectively, were not described to be of any consideration, since the design of the ink transfer roller of the Niggemeier '051 patent was driven by a number of different objectives than the sleeve of amended independent Claim 1. Thus, even if the Niggemeier '051 patent were considered to be prior art relative to the sleeve of the claimed invention, Applicants submit that one of ordinary skill in the art would not understand from the Niggemeier '051 patent that the second layer that is bonded to the outer surface of the core would have a lower coefficient of friction than the first layer that is bonded to the inner surface of the core as recited by independent Claim 1.

For each of the foregoing reasons, Applicants submit that even if the Niggemeier '051 patent were considered to be prior art, the Niggemeier '051 patent does not teach or suggest the sleeve of amended independent Claim 1. Likewise, the Niggemeier '051 patent does not teach or suggest a sleeve of dependent Claims 2-6, which depend from and include the recitations of amended independent Claim 1. Accordingly, Applicants submit that the rejection of Claims 1-6 as being obvious over the Niggemeier '051 patent is therefore overcome.

In order to present a number of other patentable features of the sleeve of the present invention, new independent Claim 9 has been introduced which defines a sleeve to include a

core, a first layer bonded to the inner surface of the core, a second layer bonded to the outer surface of the core and having a lower coefficient of friction than the first layer, and further defining at least one of the first and second layers to be comprised of a non-bias material comprised of wrap fibers extending in the lengthwise direction and fill fibers extending perpendicular to the wrap fibers. Similarly, new Claim 7, which depends from independent Claim 1, recites that at least one of the first and second layers is comprised of a non-bias material having wrap fibers extending in the lengthwise direction and fill fibers extending perpendicular to the wrap fibers. Further, new dependent Claims 8 and 10 recite that both the first and second layers are comprised of the non-bias material.

None of the cited references teach or suggest a sleeve having a core and first and second layers in which at least one of the first and second layers is comprised of a non-bias material having wrap fibers extending in the lengthwise direction and fill fibers extending perpendicular to the wrap fibers, as recited by new independent Claim 9, as well as new dependent Claim 7. As such, none of the cited references, taken either individually or in combination, teach or suggest a sleeve in which both the first and second layers are comprised of non-bias materials, as now recited by new dependent Claims 8 and 10. As such, Applicants submit that new independent Claim 9, as well as new dependent Claims 10-15 that depend therefrom, as well as new dependent Claims 7 and 8 that depend from amended independent Claim 1 define additional unique aspects of the sleeve of the present invention that are not taught or suggested by the cited references and are therefore similarly patentable.

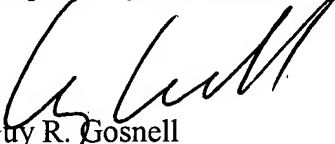
CONCLUSIONS

In view of the amendments and new submissions to the claims and the remarks presented above, it is respectfully submitted that all of the present claims of the patent application are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper.

However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

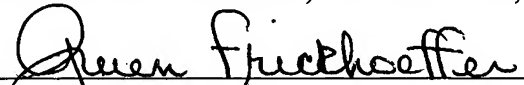


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